

Appl. No.: 10/821,426
Amdt. dated: February 19, 2007
Reply to the Office action mailed: December 1, 2006

Remarks and Arguments

Having added claim 16, canceled claims 1, 5 and 14 and amended claims 2, 6, 8 and 11 the claims presently active in this application are claims 2 - 4, 6 - 13 and 15 and 16. Reconsideration is respectfully requested.

The Examiner has rejected claims 1 - 4 and 8 - 10 under 35 U.S.C. 103(a) as being unpatentable over Jass (US 6,323,359) in view of Wang (US 3,485,843). This rejection is respectfully traversed.

In the above-identified rejection, the Examiner has stated that Jass teaches the process of deprotonating probucol compounds and subsequently reacting the obtained salt with electrophiles. The Examiner also states that Jass teaches the use of only THF or acrylonitrile as a solvent for such deprotonation, but not the use of a ketone, an optionally substituted aryl compound or an optionally substituted heteroaryl compound for the same purpose.

As to Wang (US 3,485,843) the secondary reference, the Examiner notes that ammonium salts of probucol can be conveniently separated from the reaction mixture of protonated probucol compounds and piperazine by cooling the mixture in acetone and precipitating the desired product, identifying col. 2, lines 8-10 for such disclosure and concluding that one would be motivated to use acetone as a solvent for the process of deprotonating probucol compounds - as taught by Wang. However, the Examiner has not paraphrased Wang correctly. Wang actually discloses that the product of the reaction of probucol compounds and piperazine precipitates from the reaction mixture. After separation, this product "can be conveniently separated by filtration and purified by washing with acetone". See col. 2, line 10. Applicant's use of the ketone solvent is in the reaction, not (as in Wang) after the reaction is concluded, i.e., Wang does not use

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acetone as a solvent for the (solution) reaction - instead acetone is used to extract impurities from the final (solid) product. To state that the Wang actual disclosure of using a ketone to purify the probucol compounds by washing would motivate one skilled in the art to use a ketone in the reaction of probucol compounds is to ignore the teachings of Wang (using a ketone to wash out the impurities of the reaction) and, by hindsight, substitute the ketone as a solvent for the reaction. Wang is simply not an appropriate reference and should be withdrawn. As such, the rejection under 35 USC 103(a) as obvious over Jass in view of Wang should be withdrawn.

The Examiner has rejected claims 11 - 13 under 35 U.S.C. 103(a) as being unpatentable over Jass (US 6,323,359) in view of Wang (US 3,485,843). This rejection is respectfully traversed.

In the above-identified rejection, the Examiner has stated that Jass teaches the process of deprotonating probucol compounds and subsequently reacting the obtained salt with electrophiles. The Examiner also states that Jass teaches the use of only THF or acrylonitrile as a solvent for such deprotonation, but not the use of a ketone, an optionally substituted aryl compound or an optionally substituted heteroaryl compound for the same purpose and, further, notes that Jass teaches treating the mixture of step (2) with HCl but there is no reference that the pH must be less than 7.

As discussed above, the Examiner notes that Wang discloses that ammonium salts of probucol can be conveniently separated from the reaction mixture of protonated probucol compounds and piperazine by cooling the mixture in acetone and precipitating the desired product, identifying col. 2, lines 8-10 for such disclosure and concluding that one would be motivated to use acetone

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as a solvent for the process of deprotonating probucol compounds. Applicant's have already argued the incorrect paraphrasing of Wang as used by the Examiner. See the above discussion. However, Wang (and also Jass) has no disclosure of using HCl and then hexanes to wash the reaction mixture of probucol compounds (step 2). Jass precipitates the product probucols from heptanes and slurries this precipitated material in MBTE. Filtration of the slurry produces a filtrate and a solid residue. The filtrate, which contains the desired probucol products, is washed with HCl to further purify the filtrate. Jass never uses HCl and hexanes simultaneously either during or subsequent to the reaction. In fact, there is no suggestion in Jass that HCl is used to adjust the pH at any time during the preparation of probucol products. Accordingly, neither Jass or Wang is an appropriate reference for the rejection of claims 11 - 13 under 35 USC 103(a) and such rejection should be withdrawn.

On page 7 of the Office action mailed December 1, 2006, the section, "Claim Objections/Allowable subject matter" the Examiner has stated that claims 5 - 7 and 14 - 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims.

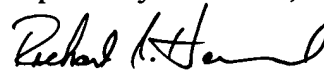
Applicant has complied with the Examiners wishes. New claim 16 which cancels claim 1, now contains the recitation of the solvent ratios as required by the Examiner (such ratios were originally recited in the now-cancelled claim 5). Similarly, claim 11 has been amended to now be dependent on new claim 16 and, additionally include the recitation of that the treatment with

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acid and heptanes occurs at elevated temperatures.

In view of the above amendments, remarks and arguments, it is believed this application is now in condition for allowance. Early notice to that effect is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard J. Hammond", with a stylized, cursive script.

Richard J. Hammond

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